

TRI-PROPERTY ROTOR ASSEMBLY OF A TURBINE ENGINE,  
AND METHOD FOR ITS PREPARATION

ABSTRACT OF THE DISCLOSURE

A rotor assembly of an axial flow turbine engine has a bladed ring including a ring, and a plurality of turbine blades affixed to the ring and extending radially outwardly from the ring. There is a solid state weld joint between a central disk hub and the ring of the bladed ring. In one approach, the rotor assembly is prepared by bonding the plurality of turbine blades to the coarse-grain ring so that the turbine blades extend outwardly from the ring, providing the fine-grain central disk hub, and solid-state inertia welding the central disk hub and the ring of the bladed ring at a solid state weld joint.